WHAT IS CLAIMED IS:

1. A process for preparing a product comprising branched olefins, said process comprising:

hydrocracking and hydroisomerizing a paraffinic wax to produce an isoparaffinic composition comprising 0.5% or less quaternary carbon atoms, said isoparaffinic composition comprising paraffins having a carbon number of from about 7 to about 18, at least a portion of said paraffins being branched paraffins comprising an average number of branches per paraffin molecule of at least 0.5, said branches comprising a first number of methyl branches and optionally a second number of ethyl branches;

exposing said isoparaffinic composition to a dehydrogenation catalyst in an amount and under dehydrogenation conditions effective to dehydrogenate said branched paraffins and to produce said branched olefins comprising 0.5% or less quaternary aliphatic carbon atoms.

2. The process of claim 1 wherein said isoparaffinic composition and said branched olefins comprise 0.3% or less quaternary aliphatic carbon atoms.

3. The process of claim 1 wherein said isoparaffinic composition comprises at least about 50 %w of said branched paraffins.

4. The process of claim 1 wherein at least 75 %w of said branched paraffins comprise a range of molecules of which the heaviest molecules comprises at most 6 carbon atoms more than the lightest molecules.

5. The process of claim 1 wherein at least 90 %w of said branched paraffins comprise a range of molecules

of which the heaviest molecules comprises at most 6 carbon atoms more than the lightest molecules.

6. The process of claim 1 wherein said paraffins have a carbon number in the range of from 7 to 35.

7. The process of claim 1 wherein at least 75%w of said isoparaffinic composition consists of paraffins having a carbon number in the range of from 10 to 18.

8. The process of claim 1 wherein at least 90 w% of said isoparaffinic composition consists of paraffins having a carbon number in the range of from 10 to 18.

9. The process of claim 1 wherein at least 75%w of said isoparaffinic composition consists of paraffins having a carbon number in the range of from 11 to 14.

10. The process of claim 1 wherein at least 90%w of said isoparaffinic composition consists of paraffins having a carbon number in the range of from 11 to 14.

11. The process of claim 1 wherein said average number of branches is at least 0.7.

12. The process of claim 1 wherein said average number of branches is at most 2.0.

13. The process of claim 1 wherein said average number of branches is at most 1.8.

14. The process of claim 1 wherein said average number of branches is at most 1.4.

15. The process of claim 1 wherein said first number of methyl branches is at least 50%.

16. The process of claim 1 wherein said second number of ethyl branches is at most 10%.

17. A process for preparing a product comprising branched olefins, said process comprising:

hydrocracking and hydroisomerizing a paraffinic wax to produce an isoparaffinic composition comprising less than 0.5% quaternary aliphatic carbon atoms, said isoparaffinic composition

comprising paraffins having a carbon number of from about 7 to about 18, at least a portion of said paraffins being branched paraffins comprising an average number of branches per paraffin molecule of at least 0.5, said branches comprising a first number of methyl branches and optionally a second number of ethyl branches;and,

exposing said isoparaffinic composition to a dehydrogenation catalyst in an amount and under dehydrogenation conditions effective to dehydrogenate said branched paraffins and to produce said branched olefins comprising less than 0.5% quaternary aliphatic carbon atoms.

18. The process of claim 1 wherein said isoparaffinic composition and said branched olefins comprise 0.3% or less quaternary aliphatic carbon atoms.

19. The process of claim 1 wherein said isoparaffinic composition comprises at least about 50 %w of said branched paraffins.

20. The process of claim 1 wherein said isoparaffinic composition comprises at most 10%w linear paraffins.

21. The process of claim 1 wherein said isoparaffinic composition comprises at most 5%w linear paraffins.

22. The process of claim 1 wherein said isoparaffinic composition is produced by a Fischer Tropsch process.

23. The process of claim 1 wherein said isoparaffinic composition is obtained from an ethylene oligomerization process.

24. The process of claim 1 wherein said isoparaffinic composition is treated with an absorbent

under conditions effective to perform a function selected from the group consisting of reducing linear paraffin content, favorably adjusting said average number of branches, and a combination thereof.

25. The process of claim 1 wherein said dehydrogenation catalyst comprises a quantity of metal or metal compound selected from the group consisting of chrome oxide, iron oxide and, noble metals.

26. The process of claim 1 wherein said dehydrogenation catalyst comprises a quantity of noble metal selected from the group consisting of platinum, palladium, iridium, ruthenium, osmium and rhodium.

27. The process of claim 1 wherein said dehydrogenation catalyst comprises a quantity of noble metal selected from the group consisting of palladium and platinum.

28. The process of claim 1 wherein said dehydrogenation catalyst comprises a quantity of platinum.

29. The process of claim 25 wherein said dehydrogenation catalyst further comprises a porous support selected from the group consisting of activated carbon; coke; charcoal; silica; silica gel; synthetic clays; and silicates.

30. The process of claim 25 wherein said dehydrogenation catalyst further comprises a porous support selected from the group consisting of gamma alumina or eta alumina.

31. The process of claim 25 where said quantity of metal or metal compound is from about 0.01 to 5%w based on the weight of the catalyst.

32. The process of claim 26 wherein said catalyst further comprises from about 0.01 to about 5%w of one or more metals selected from the group consisting of Group

3a, Group 4a and Group 5a of the Periodic Table of Elements.

33. The process of claim 26 wherein said catalyst further comprises from about 0.01 to about 5%w of one or more metals selected from the group consisting of alkali earth metals and alkaline earth metals.

34. The process of claim 26 wherein said catalyst further comprises from about 0.01 to about 5%w of one or more metals selected from the group consisting of indium, tin, bismuth, potassium, and lithium.

35. The process of claim 26 wherein said catalyst further comprises from about 0.01 to about 5%w of one or more halogens.

36. The process of claim 26 wherein said catalyst further comprises from about 0.01 to about 5%w independently of tin and chlorine.

37. The process of claim 1 wherein said catalyst is selected from the group consisting of chrome oxide on gamma alumina, platinum on gamma alumina, palladium on gamma alumina, platinum/lithium on gamma alumina, platinum/potassium on gamma alumina, platinum/tin on gamma alumina, platinum/tin on hydrotalcite, platinum/indium on gamma alumina and platinum/bismuth on gamma alumina.

38. The process of claim 1 wherein said dehyrogenation conditions comprise a temperature of from about 300°C to about 700 °C. and a pressure of from about 1.1 to 15 bar absolute.

39. The process of claim 1 wherein hydrogen is fed to said dehydrogenation catalyst with said isoparaffinic composition.

40. The process of claim 39 wherein said hydrogen and said paraffins are fed at a molar ratio of from about 0.1 to about 20.

41. The process of claim 1 wherein said dehyrogenation conditions comprise a residence time effective to maintain a conversion level of said isoparaffinic composition below about 50 mole%.

42. The process of claim 1 wherein said branched olefins comprise non-converted paraffins and said process further comprises separating said non-converted paraffins from said branched olefin product and recycling said non-converted paraffins to said dehydrogenation catalyst.

43. The process of claim 42 wherein said separating comprises exposing said product comprising non-converted paraffins to molecular sieves.

44. The process of claim 43 wherein said molecular sieves are zeolites.

45. The process of claim 1 wherein said branched olefin product comprises from about 1 to about 50% mole olefins relative to the total number of moles of olefins and paraffins present.

46. The process of claim 1 wherein said branched olefin product comprises from about 10 to about 20% mole olefins relative to the total number of moles of olefins and paraffins present in said product.

47. A process for preparing branched alkyl aromatic hydrocarbons comprising:

hydrocracking and hydroisomerizing a paraffinic wax to produce an isoparaffinic composition comprising 0.5% or less quaternary carbon atoms, said isoparaffinic composition comprising paraffins having a carbon number of from about 7 to about 18, at least a portion of said paraffins being branched paraffins comprising an average number of branches per paraffin molecule of at least 0.5, said branches comprising a first number of methyl

branches and optionally a second number of ethyl branches;

exposing said isoparaffinic composition to a dehydrogenation catalyst in an amount and under dehydrogenation conditions effective to dehydrogenate said branched paraffins and to produce a mixture comprising branched olefins comprising 0.5% or less quaternary carbon atoms and non-converted paraffins;

contacting said branched olefins with an aromatic hydrocarbon in the presence of a quantity of an alkylation catalyst under alkylation conditions effective to alkylate said aromatic hydrocarbon, producing said branched alkyl aromatic hydrocarbons.

48. The process of claim 47 wherein said aromatic hydrocarbon is selected from the group consisting of one or more of benzenes, toluenes, xylenes, and naphthalenes.

49. A process as claimed in claim 47 wherein said aromatic hydrocarbon is benzene.

50. The process of claim 47 wherein said alkylation conditions are effective to predominately monoalkylate said aromatic hydrocarbon.

51. The process of claim 47 wherein said alkylation conditions comprise a molar ratio of said branched olefins to said aromatic hydrocarbons of at least about 0.5.

52. The process of claim 47 wherein said alkylation conditions comprise a molar ratio of said branched olefins to said aromatic hydrocarbons of at least about 1.

53. The process of claim 47 wherein said alkylation conditions comprise a molar ratio of said branched

olefins to said aromatic hydrocarbons of at least about 1.5.

54. The process of claim 47 wherein said conditions comprise a liquid diluent selected from the group consisting of an excess of said aromatic hydrocarbon and paraffin mixtures having a boiling range substantially the same as said non-converted paraffins.

55. The process of claim 47 wherein said alkylation catalyst is selected from the group consisting of zeolites comprising pores having pore size dimensions of from about 4 to about 9 Å.

56. The process of claim 55 wherein said alkylation catalyst comprises one or more zeolites in acidic form selected from the group consisting of zeolite Y, ZSM-5, ZSM-11, and zeolites having an NES zeolite structure type.

57. The process of claim 55 wherein said alkylation catalyst comprises one or more zeolites in acidic form selected from the group consisting of mordenite, ZSM-4, ZSM-12, ZSM-20, offretite, gemelinite and cancrinite.

58. The process of claim 55 wherein said alkylation catalyst comprises one or more zeolites having an isotypic framework structure selected from the group consisting of NU-87 and gottardiite.

59. The process of claim 55 wherein said zeolites have a framework molar ratio of Si to Al of from about 5:1 to about 100:1.

60. The process of claim 55 wherein said zeolite has said NES zeolite structure type and comprises a framework molar ratio of Si to Al of from about 5:1 to about 25:1.

61. The process of claim 60 wherein said framework molar ratio is from about 10:1 to about 20:1.

62. The process of claim 55 wherein said zeolites comprise cationic sites, at least a portion of said cationic sites being occupied by replacing ions selected from the group other than alkali metal ions and alkaline earth metal ions.

63. The process of claim 62 wherein said replacing ions are selected from the group consisting of ammonium, hydrogen, rare earth metals, and combinations thereof.

64. The process of claim 62 wherein at least 50% of cationic sites on said zeolites are in hydrogen form.

65. The process of claim 62 wherein at least 90% of cationic sites on said zeolites are in hydrogen form.

66. The process of claim 55 wherein said alkylation catalyst comprises pellets comprising at least 50 %w, of said zeolite.

67. The process of claim 47 wherein said quantity of said alkylation catalyst is from about 1 to about 50%w relative to the weight of said branched olefins in said mixture.

68. The process of claim 47 wherein said alkylation conditions comprise a reaction temperature of from about 30°C to about 300 °C.

69. The process of claim 47 wherein said isoparaffinic composition comprises at least about 50 %w of said branched paraffins.

70. The process of claim 47 wherein said first number of methyl branches is at least about 50% of said branches.

71. The process of claim 47 wherein at least 75 %w of said branched paraffins represent a range of molecules of which the heaviest molecules comprise at most 6 carbon atoms more than the lightest molecules.

72. The process of claim 47 wherein said isoparaffinic composition comprises paraffins having a carbon number in the range of from 7 to 35.

73. The process of claim 47 wherein at least 75%w of said isoparaffinic composition consists of paraffins having a carbon number in the range of from 10 to 18.

74. The process of claim 47 wherein at least 75%w of said isoparaffinic composition consists of paraffins having a carbon number in the range of from 11 to 14.

75. The process of claim 47 wherein said average number of branches is at least 0.7.

76. The process of claim 47 wherein said average number of branches is at most 2.0.

77. The process of claim 47 wherein said average number of branches is at most 1.8.

78. The process of claim 47 wherein said first number of methyl branches is at least 50% of said branches.

79. A process for preparing branched alkyl aromatic hydrocarbons comprising:

hydrocracking and hydroisomerizing a paraffinic wax to produce an isoparaffinic composition comprising 0.5% or less quaternary aliphatic carbon atoms, said isoparaffinic composition comprising paraffins having a carbon number of from about 7 to about 18, at least a portion of said paraffins being branched paraffins comprising an average number of branches per paraffin molecule of at least 0.5, said branches comprising a first number of methyl branches and optionally a second number of ethyl branches;

exposing said isoparaffinic composition to a dehydrogenation catalyst in an amount and under

dehydrogenation conditions effective to dehydrogenate said branched paraffins and to produce a mixture comprising unconverted paraffins and branched olefins comprising 0.5% or less quaternary aliphatic carbon atoms; and

contacting said branched olefins with an aromatic hydrocarbon in the presence of a quantity of an alkylation catalyst under alkylation conditions effective to alkylate said aromatic hydrocarbon, producing said branched alkyl aromatic hydrocarbons.

80. The process of claim 79 wherein 0.3% or less of carbon atoms present in said isoparaffinic composition comprise quaternary aliphatic carbon atoms.

81. The process of claim 79 wherein at least 50 %w of said isoparaffinic composition is said branched paraffins.

82. The process of claim 79 wherein at most 10 %w of said isoparaffinic composition is said linear paraffins.

83. The process of claim 79 wherein at most 5 %w of said isoparaffinic composition is said linear paraffins.

84. The process of claim 79 wherein at most 1 %w of said isoparaffinic composition is said linear paraffins.

85. The process of claim 79 wherein said isoparaffinic composition is produced by a Fischer Tropsch process.

86. The process of claim 79 wherein said isoparaffinic composition is treated with an absorbent under absorbent conditions effective to perform a function selected from the group consisting of lowering linear paraffin content, favorably adjusting said average number of branches, and a combination thereof.

87. The process of claim 86 wherein said absorbent is a zeolite.

88. The process of claim 79 wherein said dehydrogenation catalyst comprises a quantity of metal or metal compound selected from the group consisting of chrome oxide, iron oxide and, noble metals.

89. The process of claim 88 wherein said dehydrogenation catalyst comprises a quantity of noble metal selected from the group consisting of platinum, palladium, iridium, ruthenium, osmium and rhodium.

90. The process of claim 88 wherein said dehydrogenation catalyst comprises a quantity of noble metal selected from the group consisting of palladium and platinum.

91. The process of claim 88 wherein said dehydrogenation catalyst comprises a quantity of platinum.

92. The process of claim 88 wherein said catalyst further comprises a porous support selected from the group consisting of gamma alumina or eta alumina.

93. The process of claim 88 where said quantity of metal is from about 0.01 to about 5%w based on the weight of said dehydrogenation catalyst.

94. The process of claim 89 wherein said dehyrogenation catalyst further comprises from about 0.01 to about 5%w of one or more metals selected from the group consisting of Group 3a, Group 4a and Group 5a of the Periodic Table of Elements.

95. The process of claim 89 wherein said dehyrogenation catalyst further comprises from about 0.01 to about 5%w of one or more metals selected from the group consisting of alkali earth metals and alkaline earth metals.

96. The process of claim 89 wherein said dehyrogenation catalyst further comprises from about 0.01 to about 5%w of one or more metals selected from the group consisting of indium, tin, bismuth, potassium, and lithium.

97. The process of claim 89 wherein said dehyrogenation catalyst further comprises from about 0.01 to about 5%w of one or more halogens.

98. The process of claim 89 wherein said dehyrogenation catalyst comprises from about 0.01 to about 5%w independently of tin and chlorine.

99. The process of claim 79 wherein said dehyrogenation catalyst is selected from the group consisting of chrome oxide on gamma alumina, platinum on gamma alumina, palladium on gamma alumina, platinum/lithium on gamma alumina, platinum/potassium on gamma alumina, platinum/tin on gamma alumina, platinum/tin on hydrotalcite, platinum/indium on gamma alumina and platinum/bismuth on gamma alumina.

100. The process of claim 79 wherein said dehydrogenation conditions comprise a temperature of from about 300°C to about 700 °C. and a pressure of from about 1.1 to 15 bar absolute.

101. The process of claim 79 wherein hydrogen is fed to said dehydrogenation catalyst with said isoparaffinic composition.

102. The process of claim 101 wherein said hydrogen and said paraffins are fed at a molar ratio of from about 0.1 to about 20.

103. The process of claim 79 wherein said dehydrogenation conditions comprise a residence time effective to maintain a conversion level of said isoparaffinic composition of about 50 mole% or less.

104. The process of claim 79 further comprising separating non-converted paraffins from said product and recycling said non-converted paraffins to said dehydrogenation catalyst.

105. The process of claim 79 wherein said product comprises from about 50% mole or less olefins relative to the total number of moles of olefins and paraffins in said product.

106. A process for preparing (branched-alkyl) arylsulfonates comprising:

hydrocracking and hydroisomerizing a paraffinic wax to produce an isoparaffinic composition comprising 0.5% or less quaternary carbon atoms, said isoparaffinic composition comprising paraffins having a carbon number of from about 7 to about 18, at least a portion of said paraffins being branched paraffins comprising an average number of branches per paraffin molecule of at least 0.5, said branches comprising a first number of methyl branches and optionally a second number of ethyl branches;

exposing said isoparaffinic composition to a dehydrogenation catalyst in an amount and under dehydrogenation conditions effective to dehydrogenate said branched paraffins and to produce a mixture comprising branched olefins and unconverted paraffins, said branched olefins comprising 0.5% or less quaternary carbon atoms;

contacting said branched olefins with an aromatic hydrocarbon in the presence of a quantity of an alkylation catalyst under alkylation conditions effective to alkylate said aromatic

hydrocarbon, producing branched alkyl aromatic hydrocarbons comprising 0.5% or less quaternary carbon atoms;

sulfonating said branched alkyl aromatic hydrocarbons.

107. The process of claim 106 wherein said aromatic hydrocarbon is selected from the group consisting of one or more of benzenes, toluenes, xylenes, and naphthalenes.

108. The process of claim 106 wherein said aromatic hydrocarbon is benzene.

109. The process of claim 106 wherein said alkylation conditions are effective to predominately monoalkylate said aromatic hydrocarbon.

110. The process of claim 106 wherein said alkylation catalyst is selected from the group consisting of zeolites comprising pores having pore size dimensions of from about 4 to about 9 Å.

111. The process of claim 106 wherein said alkylation catalyst comprises one or more zeolites in acidic form selected from the group consisting of zeolite Y, ZSM-5, ZSM-11, mordenite, ZSM-4, ZSM-12, ZSM-20, offretite, gemelinite, cancrinite, and zeolites having an NES zeolite structure type.

112. The process of claim 106 wherein alkylation catalyst is a zeolite having an isotypic framework structure selected from the group consisting of NU-87 and gottardiite.

113. The process of claim 110 wherein said zeolites have a framework molar ratio of Si to Al of from about 5:1 to about 100:1.

114. The process of claim 111 wherein said zeolite has said NES zeolite structure type and has a framework molar ratio of Si to Al of from about 5:1 to about 25:1.

115. The process of claim 110 wherein said zeolites comprise cationic sites, at least a portion of said cationic sites being occupied by replacing ions selected from the group other than alkali metal ions and alkaline earth metal ions.

116. The process of claim 115 wherein said replacing ions are selected from the group consisting of ammonium, hydrogen, rare earth metals, and combinations thereof.

117. The process of claim 115 wherein at least 50% of cationic sites on said zeolites are in hydrogen form.

118. The process of claim 115 wherein at least 90% of cationic sites on said zeolites are in hydrogen form.

119. The process of claim 110 wherein said alkylation catalyst comprises pellets comprising at least 50 %w of said zeolite.

120. The process of claim 106 wherein said quantity of said alkylation catalyst is from about 1 to about 50%w relative to the weight of said branched olefins in said mixture.

121. The process of claim 106 wherein said isoparaffinic composition comprises at least about 50 %w branched paraffins.

122. The process of claim 106 wherein said first number is at least about 50% of said branches.

123. The process of claim 106 wherein at least 75 %w of said branched paraffins in said isoparaffinic composition represent a range of molecules of which the heaviest molecules comprises at most 6 carbon atoms more than the lightest molecules.

124. The process of claim 106 wherein said isoparaffinic composition comprises paraffins having a carbon number in the range of from 7 to 35.

125. The process of claim 106 wherein at least 75%w of said isoparaffinic composition consists of paraffins having a carbon number in the range of from 10 to 18.

126. The process of claim 106 wherein at least 75%w of said isoparaffinic composition consists of paraffins having a carbon number in the range of from 11 to 14.

127. The process of claim 106 wherein said average number of branches is at least 0.7.

128. The process of claim 106 wherein said average number of branches is at most 2.0.

129. The process of claim 106 wherein said average number of branches is at most 1.8.

130. The process of claim 106 wherein said first number of methyl branches is at least 50% of said branches.

131. The process of claim 106 wherein said second number of ethyl branches is at most 10% of said branches.

132. A process for preparing (branched-alkyl) arylsulfonates comprising:

hydrocracking and hydroisomerizing a paraffinic wax to produce an isoparaffinic composition comprising 0.5% or less quaternary aliphatic carbon atoms, said isoparaffinic composition comprising paraffins having a carbon number of from about 7 to about 18, at least a portion of said paraffins being branched paraffins comprising an average number of branches per paraffin molecule of at least 0.5, said branches comprising a first number of methyl branches and optionally a second number of ethyl branches;

exposing said isoparaffinic composition to a dehydrogenation catalyst in an amount and under dehydrogenation conditions effective to

dehydrogenate said branched paraffins and to produce a mixture comprising branched olefins and unconverted paraffins, said branched olefins comprising 0.5% or less quaternary aliphatic carbon atoms;

contacting said branched olefins with an aromatic hydrocarbon in the presence of a quantity of an alkylation catalyst under alkylation conditions effective to alkylate said aromatic hydrocarbon, producing branched alkyl aromatic hydrocarbons comprising 0.5% or less quaternary aliphatic carbon atoms;

sulfonating said branched alkyl aromatic hydrocarbons.

133. The process of claim 132 wherein 0.3% or less of carbon atoms present in said isoparaffinic composition comprise quaternary aliphatic carbon atoms.

134. The process of claim 132 wherein said isoparaffinic composition is at least 50%w said branched paraffins.

135. The process of claim 132 wherein the said isoparaffinic composition is at most 5%w linear paraffins.

136. The process of claim 132 wherein said isoparaffinic composition is at most 1%w linear paraffins.

137. The process of claim 132 wherein said isoparaffinic composition is produced by a Fischer Tropsch process.

138. The process of claim 132 wherein said isoparaffinic composition is treated with an absorbent under absorbent conditions effective to perform a function selected from the group consisting of reducing

linear paraffin content, favorably adjusting said average number of branches, and a combination thereof.

139. The process of claim 132 wherein said dehydrogenation catalyst comprises a quantity of metal or metal compound selected from the group consisting of chrome oxide, iron oxide and, noble metals.

140. The process of claim 132 wherein said dehydrogenation catalyst comprises a quantity of noble metal selected from the group consisting of palladium and platinum.

141. The process of claim 133 wherein said dehydrogenation catalyst comprises a quantity of platinum.

142. The process of claim 139 wherein said dehydrogenation catalyst comprises a porous support selected from the group consisting of gamma alumina or eta alumina.

143. The process of claim 139 where said quantity of metal is from about 0.01 to about 5%w based on the weight of said dehydrogenation catalyst.

144. The process of claim 139 wherein said metal or metal compound is a noble metal and said dehyrogenation catalyst further comprises from about 0.01 to about 5%w of one or more metals selected from the group consisting of Group 3a, Group 4a and Group 5a of the Periodic Table of Elements.

145. The process of claim 139 wherein said metal or metal compound is a noble metal and said dehyrogenation catalyst further comprises from about 0.01 to about 5%w of one or more metals selected from the group consisting of alkali earth metals and alkaline earth metals.

146. The process of claim 139 wherein said metal or metal compound is a noble metal and said dehyrogenation

catalyst comprises from about 0.01 to about 5%w independently of tin and chlorine.

147. The process of claim 132 wherein said dehyrogenation catalyst is selected from the group consisting of chrome oxide on gamma alumina, platinum on gamma alumina, palladium on gamma alumina, platinum/lithium on gamma alumina, platinum/potassium on gamma alumina, platinum/tin on gamma alumina, platinum/tin on hydrotalcite, platinum/indium on gamma alumina and platinum/bismuth on gamma alumina.

148. The process of claim 132 wherein hydrogen and said isoparaffinic composition are fed to said dehydrogenation catalyst at a molar ratio of from about 0.1 to about 20.

149. The process of claim 132 wherein said dehydrogenation conditions comprise a residence time effective to maintain a conversion level of said isoparaffinic composition below 50 mole%.

150. The process of claim 132 further comprising separating non-converted paraffins from said product and recycling said non-converted paraffins to said dehydrogenation catalyst.

151. The process of claim 132 wherein said process produces a product comprising from about 5 to about 30% mole olefins relative to the total number of moles of olefins and paraffins in said product.

152. A branched olefin composition made by the process of claim 1.

153. A branched alkyl aromatic hydrocarbon composition made by the process of claim 47.

154. A (branched-alkyl)arylsulfonate composition made by the process of claim 132.